

WHAT IS CLAIMED IS:

Sub A10
1. An electroconductive device, comprising: a pair of oppositely disposed electrodes, and a luminescence layer and an electroconductive layer disposed between the electrodes, wherein the electroconductive layer comprises a mixture of a plurality of organic compounds which are mutually structural isomers and include a major component and a minor component, the mixture comprising the major and minor components in a (major component)/(minor component) ratio of 1/1 to 9/1.

2. A device according to Claim 1, wherein the organic compounds are represented by the following formula (1):

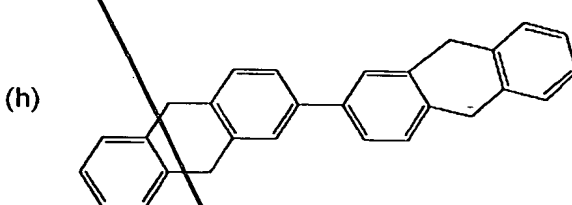
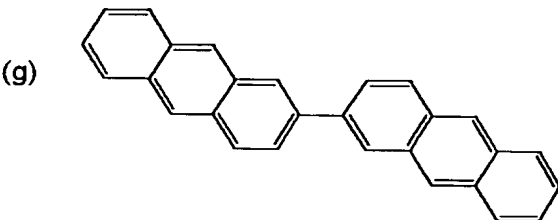
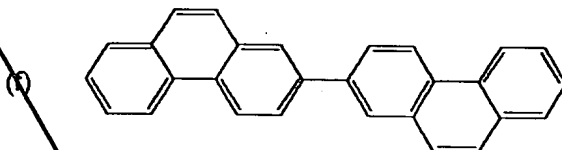
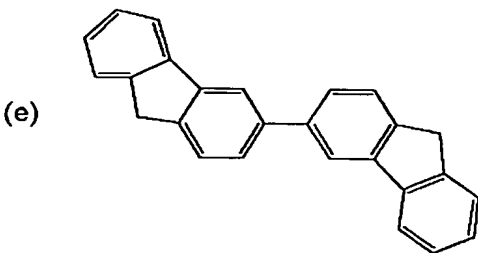
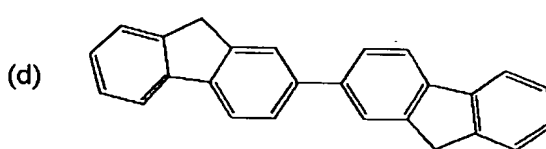
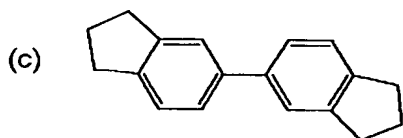
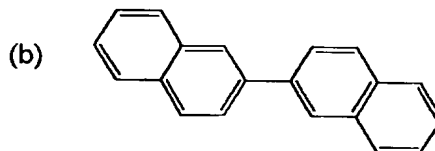
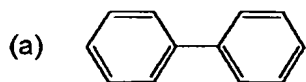


wherein Ar denotes a connected ring structure comprising two single rings connected with each other via a single bond or two fused rings connected with each other via a single bond; X and X' independently denote a single bond, -O-, -S-, -OOC- or -COO-; R and R' independently denote -H, -F or a linear or branched alkyl group having 1 - 20 carbon atoms capable of including one methylene group which can be replaced with -O-, -S-, -CH=CH- or -C≡C-; and m and n are an integer of 1 - 8, with the proviso that R and R' cannot be -H at the same time when X and X' are a

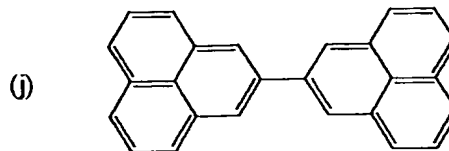
single bond.

3. A device according to Claim 1, wherein Ar in the formula (1) is a connected ring structure comprising two fused rings connected with each other via a single bond, each of said two fused rings comprising 2 - 5 rings.

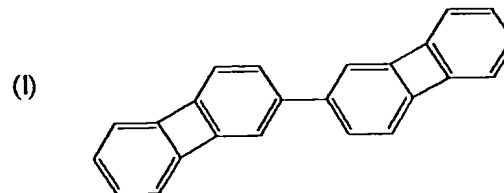
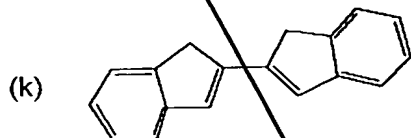
4. A device according to Claim 2, wherein Ar in the formula (1) is a connected ring structure represented by any one of the following formulas (a) to (h):



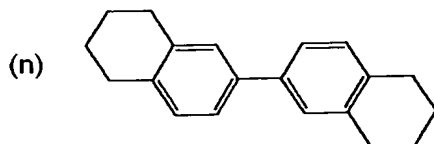
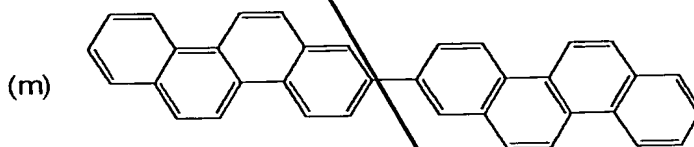
Sub P10
cont'd



5



10



15 wherein CH is optionally substituted with N or NH, and
CH₂ is optionally substituted with S or O.

20 5. A device according to Claim 2, wherein Ar in
the formula (1) is a connected ring structure
represented by the following formula (2):

A-B

(2),

25 wherein A and B independently denote any one of
phenyl-diyl, pyridine-diyl, pyrazine-diyl, pyrimidine-
diyl, pyridazine-diyl, indene-diyl, indolizine-diyl,
isoindole-diyl, indole-diyl, purine-diyl, naphthalene-
diyl, quinoline-diyl, isoquinoline-diyl, quinoxaline-
diyl, 1,5-naphthyridine-diyl, 1,6-naphthyridine-diyl,

09963441.09963441

Sub A10
Cent 11

1,7-naphtharidine-diyl, 1,8-naphthyridine-diyl,
quinazoline-diyl, cinnoline-diyl, pyrido[2,3-
b]pyrazine-diyl, pyrazino[2,3-b]pyrazine-diyl,
pteridine-diyl, biphenylene-diyl, fluorene-diyl,
5 carbazole-diyl, thianthrene-diyl, phenalene-diyl,
phenanthridine-diyl, phenanthrene-diyl, anthracene-
diyl, chrysene-diyl, acridine-diyl, perimidine-diyl,
phenanthroline-diyl, phenazine-diyl, phenothiazine-
diyl, phenoxathin-diyl, indan-diyl, coumaran-diyl,
10 phthalan-diyl, chroman-diyl, isochroman-diyl,
thiachroman-diyl, isothiachroman-diyl, and
thiaxanthene-diyl.

6. A device according to Claim 5, wherein A in
15 the formula (2) is quinoxaline-diyl.

7. A device according to Claim 5, wherein $R=R'$,
 $X=X'$ and $m=n=1$ are satisfied in the formula (1), and
 $A=B$ is satisfied in the formula (2) to form a
20 symmetric structure having a center of symmetry.

8. A device according to Claim 1, wherein the
mixture of a plurality of organic compounds is in an
amorphous state.

25

9. An electroluminescence device, comprising: a
pair of oppositely disposed electrodes, and a

[illegible]

5 carrier transport layer comprises the
electroconductive layer of the electroconductive
device according to Claim 1.

10. A device according to Claim 9, wherein the device comprises the luminescence layer and the carrier injection layer disposed between the electrodes, the carrier injection layer being an electron injection layer.

15 11. A process for producing an electroconductive device of the type comprising a pair of oppositely disposed electrodes and an electroconductive layer disposed between the electrodes, said process comprising:

20 a step of forming an electroconductive layer
comprising a mixture of a plurality of organic
compounds between the electrodes, the organic
compounds being mutually structural isomers and
including a major component and a minor component;
25 wherein

the mixture comprises the major and minor components in a (major component)/(minor component)

ratio of 1/1 to 9/1.

12. A process according to Claim 11, wherein the
electroconductive layer is formed through vacuum

5 deposition.

10

15

20

25

09963441-090201